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TECH CENTER 1600/2900

# DeCypher Results for: ClustalW Multiple Alignment

View dendrogram

Smart II oligo -||-5'UTR

hDAP10c CTAATACGACTCACTATAGGGCAAGCAGTGGTAACAACGCAGAGTACGCGGGGAGTCGGG  
mDAP10c\_coding -----

hDAP10c CCGCGGCGACGGCGGCAGGAGCGCGTCCCGGCGCCGCTCGGGCTCCGCTCGGCTCGGGG  
mDAP10c\_coding -----

hDAP10c GCTGCTTCGGGAGGAGGAGAGCCAAGGGAGGCGCCAGGCCCGCGGGCCGGGCGCATGGCT  
mDAP10c\_coding -----

hDAP10c TAGGGACGCTCCCGGCCCGCGCAGCCCCAGCATGGGGAAACTTCACTCCAAGCCGGCCGC  
mDAP10c\_coding -----ATGGGGAAACTTCACTCGAAGCCGGCCGC  
\*\*\*\*\*

hDAP10c CGTGTGCAAGCGCAGGGAGAGCCCCGAAGGTGACAGCTTCGCCGTGAGCGCTGCCTGGGC  
mDAP10c\_coding CGTGTGCAAGCGCAGGGAGAGCCCCGAAGGTGACAGCTTTGCTGTAAGCGCTGCTTGGGC  
\*\*\*\*\*

hDAP10c TCGGAAGGGCATCGAGGAGTGGATCGGGAGACAGCGCTGCCCCGGGCGGTGTCTCGGGACC  
mDAP10c\_coding AAGGAAAGGCATCGAGGAGTGGATCGGGAGGCAGCGCTGTCCAGGCAGCGTCTCAGGACC  
\*\*\*\*

hDAP10c CCGACAGCTGCGGTTGGCGGGCACCATAGGCCGAAGCACCCGGGAGCTCGTGGGCGACGT  
mDAP10c\_coding CCGTCAGCTGAGATTGGCAGGCACTGTTGGTCGAGGCACTCGGGAACCTCGTGGGTGACAC  
\*\*\*

hDAP10c GTTGAGAGACACGCTCAGCGAGGAAGAGGAGGACGACTTTCGGCTGGAAGTGGCCCTGCC  
mDAP10c\_coding TTCTAGAGAGGCTCTCGGTGAGGAGGACGAGGACGACTTCCCCCTAGAAGTGGCCCTGCC  
\* \*\*\*\*\*

hDAP10c TCCTGAGAAGACTGACGGGCTGGGCAGCGGAGATGAGAAGAAGATGGAGAGAGTGAGCGA  
mDAP10c\_coding GCCTGAGAAGATCGACAGCCTAGGTAGTGGAGATGAGAAGAGAATGGAGAGACTGAGCGA  
\*\*\*\*\*

hDAP10c ACCCTGCCCAGGCTCCAAGAAGCAGCTGAAGTTTGAAGAGCTCCAGTGCGACGTGTCCAT  
mDAP10c\_coding ACCTGGCCAGGCCTCCAAGAAGCAGCTCAAGTTTGAAGAGCTACAGTGTGATGTCTCTGT  
\*\*\*

hDAP10c GGAGGAGGACAGCCGGCAGGAGTGGACCTTCAACCCTGTATGACTTTGACAACAACGGCAA  
mDAP10c\_coding GGAGGAGGACAGCCGGCAAGAGTGGACTTTCACCTCTATATGACTTCGACAACAATGGCAA  
\*\*\*\*\*

FIG. 1-1



**hDAP10c** GGTCAACCCGAGAGGACATCACCAGCTTGCTGCACACCATCTATGAGGTGGTGGACTCCTC  
**mDAP10c\_coding** AGTGACCCGTGAGGACATTACCAGCTTGCTGCATACCATCTATGAAGTGGTTGACTCCTC  
\* \* \* \* \*

**hDAP10c** TGTCAACCACTCCCCAACATCCAGCAAGATGCTGCGGGTAAAGCTCACCGTGGCCCCCGA  
**mDAP10c\_coding** TGTGAACCATCCCCACATCAAGCAAGACACTGCGGGTGAAGCTCACCGTGGCTCCTGA  
\* \* \* \* \*

**hDAP10c** TGGCAGCCAGAGCAAGAGGAGCGTCCTTGTCATCAGGCTGACCTGCAGAGCGCAAGGCC  
**mDAP10c\_coding** CGGGAGCCAGAGTAAGAGGAGCGTCCTTTCAACCATACCGATCTGCAGAGCACAAGGCC  
\* \* \* \* \*

**hDAP10c** CCGAGCAGAGACCAAGCCCCTGAGGACCTGCGGAGCTGGGAGAAGAAGCAGCGAGCCCC  
**mDAP10c\_coding** CCGAGCAGACACCAAACCCGCTGAGGAGCTGCGTGGCTGGGAGAAGAAGCAGCGAGCCCC  
\* \* \* \* \*

**hDAP10c** GCTCAGGTTCCAGGGTGACAGCCGCTGGAGCAGTCTGGCTGCTACCACCATTCGCTAGA  
**mDAP10c\_coding** ACTCAGGTTCCAGGGTGACAGCCACCTGGAGCAGCCAGACTGCTACCACCATTCGCTGGA  
\* \* \* \* \*

**hDAP10c** TGAGAACATCGAGAGGAGAAACCACTACTTAGATCTCGCCGGGATAGAAAACCTACACGTC  
**mDAP10c\_coding** TGAGAACATTGAGAGGAGAAACCACTACCTAGACCTGGCGGGGATAGAGAACTACACGTC  
\* \* \* \* \*

**hDAP10c** CCAATTTGGGCCTGGCTCCCCCTTCGCTGGGCCAGAAAGTCAGAACTGCCCCCCCCGCACCTC  
**mDAP10c\_coding** TCAGTTTGGAACCGGGATCCCCCTTCGCTGGGCCAGAAAGTCAGAGCTGCCCCCTCGAATCTC  
\* \* \* \* \*

**hDAP10c** CAATCCCCTCGATCTCGCTCCCATGAGCCGGAAGCCATCCACATCCCACACCGAAAGCC  
**mDAP10c\_coding** CAACCCCTCGCTCTCGCTCCACGAGCCAGAAAGTCGCCACATCCCACACCGGAGGCC  
\* \* \* \* \*

**hDAP10c** CCAAGGCGTGGAACCCGGCCTCCTTCCACTTCCTTGACACCCCAATCGCCAAGGTCTCAGA  
**mDAP10c\_coding** CCAAGGTGTGGAACCCAGGCTCCTTCCACTTCCTTGACACCCCATTTGCCAAGGCATCAGA  
\* \* \* \* \*

**hDAP10c** GCTCCAGCAACGGCTCCGGGGCACCCAGGACGGGAGCAAGCACTTTGTGAGGTCCCCCAA  
**mDAP10c\_coding** GCTCCAGCAACGGCTCCGGGGCACTCAGGATGGGAGCAAGCACTTTGTGAGGTCCCCCAA  
\* \* \* \* \*

**hDAP10c** GGCCCAGGGCAAGAGTGTGGGTGTGGGCCACGTGGCCAGAGGGCAAGAAACAAGCCCCC  
**mDAP10c\_coding** GGCCCAGGGCAAGAACATGGGTATGGGCCACGGGGCCAGAGGTGAAGAAGCAAGCCTCC  
\* \* \* \* \*

**hDAP10c** TCTGGGACCCGCCATCCCTGCGGTGTCCCCCTCCGCCACCTGGCTGCCAGCCCGGCCCT  
**mDAP10c\_coding** ACTGGTACCCACCACCCATACTGTCTCCCCCTCTGCCCATCTGGCCACCAGCCAGCCCT  
\* \* \* \* \*

**hDAP10c** CCTCCCCCTCCCTAGCCCCCTCGGGCACAAGAAGCACAAGCACCGAGCCAAGGAGAGCCA  
**mDAP10c\_coding** TCTCCCCACCCTGGCACCCCTGGGGCACAAGAACAACAAGCATCGAGCCAAGGAGAGCCA

FIG. 1-2



\*\*\*\*\* \*\* \* \* \* \* \* \*\*\*\*\* \* \* \* \* \* \*\*\*\*\* \* \* \* \* \* \*\*\*\*\* \* \* \* \* \*

hDAP10c GCAGGGCTCCCGGGCCCTGCAGGCACCACTGGCCCTCAGGTGGCCCT--GTCCTGGGGCG  
mDAP10c\_coding GCGGAGCTCCCGGGCCCTGCAGGGCCCCCTGGCTGCAGGAGGCTCCACCGTCATGGGGCG  
\* \* \* \* \* \*\*\*\*\* \* \* \* \* \* \*\*\*\*\* \* \* \* \* \* \*\*\*\*\* \* \* \* \* \*

hDAP10c GGAGCACCTGCGGGAGCTGCCCGCCCTTGGTGGTGTATGAGAGCCAGGCGGGCAGCCGGT  
mDAP10c\_coding GGAGCAGGTGAGGGAGCTGCCCTGCCGTGGTGGTGTACGAGAGCCAGGCTGGGCAGGCCGT  
\*\*\*\*\* \*\* \* \* \* \* \* \*\*\*\*\* \* \* \* \* \* \*\*\*\*\* \* \* \* \* \* \*\*\*\*\* \* \* \* \* \*

hDAP10c CCAGAGACATGAGCACCAACCACCACCATGAACATCACCACCATACCACCTTCTACCA  
mDAP10c\_coding CCAGAGACACGACACCACTCACCACCACGAAATCACCACCATATCACCACCTTCTATCA  
\*\*\*\*\* \*\* \* \* \* \* \* \*\*\*\*\* \* \* \* \* \* \*\*\*\*\* \* \* \* \* \* \*\*\*\*\* \* \* \* \* \*

-||-3'UTR  
hDAP10c GACATAGAGCCCTCCCGGCCCCCAGGCCCCCTGCCATATGAAGACCCCGGACACC  
mDAP10c\_coding GCCCTAG-----  
\* \* \* \* \*

hDAP10c ACAAGGCATTATTCTATTAATTATTGTTATTATGATGATTATTGTTATTAAATTA  
mDAP10c\_coding -----

hDAP10c TTGTTACTCCACTAATATTAGCTAGCCTACATGTAGAAGATCTATGGAACACAGAACT  
mDAP10c\_coding -----

-|  
hDAP10c AAACCTTTTATTATATGTTAAAAAATAAAAAAAAAAAAAA  
mDAP10c\_coding -----

FIG. 1-3



## DeCypher Results for: ClustalW Multiple Alignment

View dendrogram

<b>hDAP10cFL.pep</b>	MGKLHSPAAVCKRRESPEGDSFAVSAAWARKGIEEWIGRQRCPGGVSQPRQLRLAGTIG
<b>mDAP10c.pep</b>	MGKLHSPAAVCKRRESPEGDSFAVSAAWARKGIEEWIGRQRCPGSVSGPRQLRLAGTVG *****.*****.*
<b>hDAP10cFL.pep</b>	RSTRELVDVLRDTLSEEEEDDFRLEVALPPEKTDGLGSGDEKKMERVSEPCPGSKKQLK
<b>mDAP10c.pep</b>	RGTRRELVDGTSREALGEEDEDDFLEVALPPEKIDSLGSGDEKRMERLSEPGQASKKQLK *.*****.*:*.***:*****.*****.*:***:***.*****
<b>hDAP10cFL.pep</b>	FEELQCDVSMEEDSRQEWTFITLYDFDNGKVTREDITSLLHTIYEVVDSSVNHSPSSKM
<b>mDAP10c.pep</b>	FEELQCDVSVEEDSRQEWTFITLYDFDNGKVTREDITSLLHTIYEVVDSSVNHSPSSKT *****.*:*****.*****.*****.*****.*****.*****
<b>hDAP10cFL.pep</b>	LRVKLTVAPDGSQSKRSVLVNQADLQSAAPRAETKPTEDLRSWEKKQRAPLRFQGDSTRLE
<b>mDAP10c.pep</b>	LRVKLTVAPDGSQSKRSVLNHTDLQSTRPRADTKPAEELRGWEKKQRAPLRFQGDSTRLE *****.*:*.***:***:***:***.*****.*****.*
<b>hDAP10cFL.pep</b>	QSGCYHHCVDENIERRNHYLDLAGIENYTSQFGPGSPSVAQKSELPPRTSNPTRSRSHPE
<b>mDAP10c.pep</b>	QPDICYHHCVDENIERRNHYLDLAGIENYTSQFGPGSPSVAQKSELPPRISNPTRSRSHPE *.*****.*****.*****.*****.*****.*****
<b>hDAP10cFL.pep</b>	EAIHIPHRKPQGVDPASFHFLDTPIAKVSELQQRLRGTQDGSKHFVRSPPKAQGKSVGVGH
<b>mDAP10c.pep</b>	EAAHIPHRRPQGVDPGSHLLDTPIAKVSELQQRLRGTQDGSKHFVRSPPKAQGKNMGMGH ** *****.*:*.***:***:***.*****.*****.*:*.***
<b>hDAP10cFL.pep</b>	VARGARNKPPLGPAIPAVSPSAHLAASPALLPSLAPLGHKKHKHRAKESQQGCRGLQAPL
<b>mDAP10c.pep</b>	GARGARSKPPLVPTHTVSPSAHLATSPALLPTLAPLGHKKHKHRAKESQASCRGLQGPL *****.*:*.***:***:***:***.*****.*****.*
<b>hDAP10cFL.pep</b>	ASGG-PVLGREHLRELPAVVYESQAGQPVQRHEHHHHHEHHHHYHHFYQT
<b>mDAP10c.pep</b>	AAGGSTVMGREQVRELPAVVYESQAGQAVQRHEHHHHHEHHHHYHHFYQP *:*.*:*.***:***:***.*****.*****.*****.*****

FIG. 2



GAATTCGCCCTTCTAATACGACTCACTATAGGGCAAGCAGTGGTAACAACGCAGAGTACGCGGGGAGTCGG  
GCCGCGGCGACGGCGGCAGGAGCGCGTCCC GGCGCCGCTCGGGCTCCGCTCGGCTCGGGGGCTGCTTCGG  
GAGGAGGAGAGCCAAGGGAGGCGCCAGGCCCGCGGGCCGGGCGCATGGCTTAGGGACGCTCCCGGCCGCCG  
CAGCCCCAGCATGGGGAACTTCACTCCAAGCCGGCCGCGGTGTGCAAGCGCAGGGAGAGCCCCGAAGGTG  
ACAGCTTCGCCGTGAGCGCTGCCTGGGCTCGGAAGGGCATCGAGGAGTGGATCGGGAGACAGCGCTGCCCG  
GGCGGTGTCTCGGGACCCCCGACAGCTGCGGTTGGCGGGCACCATAGGCCGAAGCACCCGGGAGCTCGTGGG  
CGACGTGTTGAGAGACACGCTCAGCGAGGAAGAGGAGGACGACTTTCGGCTGGAAGTGGCCCTGCCTCCTG  
AGAAGACTGACGGGCTGGGCAGCGGAGATGAGAAGAAGATGGAGAGAGTGAGCGAACCCCTGCCCCAGGCTCC  
AAGAAGCAGCTGAAGTTTGAAGAGCTCCAGTGCGACGTGTCCATGGAGGAGGACAGCCGGCAGGAGTGGAC  
CTTCACCCCTGTATGACTTTGACAACAACGGCAAGGTACCCGAGAGGACATCACCAGCTTGCTGCACACCA  
TCTATGAGGTGGTGGACTCCTCTGTCAACCCTCCCCAACATCCAGCAAGATGCTGCGGGTAAAGCTCACC  
GTGGCCCCCGATGGCAGCCAGAGCAAGAGGAGCGTCTTGTCAATCAGGCTGACCTGCAGAGCGCAAGGCC  
CCGAGCAGAGACCAAGCCCCTGAGGACCTGCGGAGCTGGGAGAAGAAGCAGCGAGCCCCGCTCAGGTTCC  
AGGGTGACAGCCGCTGGAGCAGTCTGGCTGCTACCACCATTGCGTAGATGAGAACATCGAGAGGAGAAAC  
CACTACTTAGATCTCGCCGGGATAGAAAACCTACACGTCCCAATTTGGGCCTGGCTCCCCCTTCGGTGGCCCA  
GAAGTCAGAACTGCCCCCCCCGCACCTCCAATCCCCTCGATCTCGCTCCCATGAGCCGGAAGCCATCCACA  
TCCCACACCGAAAGCCCCAAGGCGTGGACCCGGCCTCCTTCCACTTCCTTGACACCCCAATCGCCAAGGTC  
TCAGAGCTCCAGCAACGGCTCCGGGGCACCCAGGACGGGAGCAAGCACTTTGTGAGGTCCCCCAAGGCCCA  
GGGCAAGAGTGTGGGTGTGGGCCACGTGGCCAGAGGGGCAAGAAACAAGCCCCCTCTGGGACCCGCCATCC  
CTGCGGTGTCCCCCTCCGCCACCTGGCTGCCAGCCGGCCCTCCTCCCCCTCCCTAGCCCCCTCGGGCAG  
AAGAAGCACAAAGACCCGAGCCAAGGAGAGCAGAGGCTGCCGGGGCTGCAGGACCACTGGCCCTCAGG  
TGGCCCTGTCTGGGGCGGGAGCACCTGCGGGAGCTGCCCCCTTGGTGGTGTATGAGAGCCAGGCCGGGC  
AGCCGGTCCAGAGACATGAGCACCACCACCACCATTGAACATCACCACCATTACCACCCTTCTACCAGACA  
TAGAGCCCCCTCCCCAGGGCCCCACCCTGCCATATGAAGGACCCACCCCGACACCACAAGGCATTATTAT  
TCTATTAATTATTGTTATTATGATGATTATTGTTATTAATAATTATTGTTACTCCACTAATATTTAGCTAG  
CCTACATGTAGAAGATCTATGGAAACACAGAACTAACTTTTATTTATATGTTAAAAAAAAAAAAAAAAAAAA  
AAAAAGCGGCCGC

FIG. 3

SEQ. ID. NO.: 6

ATGGGGAACTTCACTCGAAGCCGGCCGCGCGTGTGCAAGCGCAGGGAGAGCCCCGAAGGTGACAGCTTTG  
CTGTAAGCGCTGCTTGGGCAAGGAAAGGCATCGAGGAGTGGATCGGGAGGCAGCGCTGTCCAGGCAGCGT  
CTCAGGACCCCGCTCAGCTGAGATTGGCAGGCACTGTTGGTCGAGGCACTCGGGAACCTCGTGGGTGACACT  
TCTAGAGAGGCTCTCGGTGAGGAGGACGAGGACGACTTCCCCCTAGAAGTGGCCCTGCGCCTGAGAAGA  
TCGACAGCCTAGGTAGTGGAGATGAGAAGAGAATGGAGAGACTGAGCGAACCTGGCCAGGCCTCCAAGAA  
GCAGCTCAAGTTTGAAGAGCTACAGTGTGATGTCTCTGTGGAGGAGGACAGCCGGCAAGAGTGGACTTTC  
ACTCTATATGACTTCGACAACAATGGCAAAGTGACCCGTGAGGACATTACCAGCTTGCTGCATACCATCT  
ATGAAGTGGTTGACTCCTCTGTGAACCATTCCCCCACATCAAGCAAGACACTGCGGGTGAAGCTCACCGT  
GGCTCCTGACGGGAGCCAGAGTAAGAGGAGCGTCCTTTTCAACCATAACCGATCTGCAGAGCACAAGGCC  
CGAGCAGACACCAACCCGCTGAGGAGCTGCGTGGCTGGGAGAAGAAGCAGCGAGCCCCACTCAGGTTCC  
AGGGTGACAGCCACCTGGAGCAGCCAGACTGCTACCACCATTGCGTGGATGAGAACATTGAGAGGAGAAA  
CCACTACCTAGACCTGGCGGGGATAGAGAACTACACGTCTCAGTTTGGACCGGGATCCCCCTTCGGTGGCC  
CAGAAGTCAGAGCTGCCCCCTCGAATCTCCAACCCCACTCGCTCTCGCTCCCACGAGCCAGAAGCTGCCC  
ACATCCACACCCGAGGCCCAAGGTGTGGACCCAGGCTCCTTCCACCTCCTTGACACCCCAATTTGCCAA  
GGCATCAGAGCTCCAGCAACGGCTCCGGGGCACTCAGGATGGGAGCAAGCACTTTGTGAGGTCCCCCAAG  
GCCCAGGGCAAGAATATGGGTATGGGCCACGGGGCCAGAGGTGCAAGAAGCAAGCCTTCACTGGGTACCCA  
CCACCCATCTGTCTCCCCCTCTGCCCATCTGGCCACCAGCCAGCCCTTCTCCCCACCTTGGCACCCTT  
GGGGCACAAGAAACACAAGCATCGAGCCAAGGAGAGCCAGGCGAGCTGCCGGGGCTGCAGGGCCCCCTG  
GCTGCAGGAGGCTCCACCGTCATGGGGCGGGAGCAGGTGAGGGAGCTGCCCTGCCGTGGTGGTGTACGAGA  
GCCAGGCTGGGCAGGCCGTCCAGAGACACGAACACCATCACCACCACGAACATCACCACCATTATCACC  
CTTCTATCAGCCCTAG

FIG. 4



MGKLHSPAAVCRRRESPEGDSFAVSAAWARKGIEEWIGRQRCPGVSGPRQLRAGTIGRSTRELVGDLV  
RDTLSEEEEDDFRLVALPPEKTDGLSGDEKKMERVSEPCPGSKQLKFEELQCDVSMEEDSRQEWTFLL  
YDFDNGKVTREDITSLHTIYEVVDSSVNHSPSTSSKMLRVKLTVPDGSQSKRSVLVNQADLQ SARPAE  
TKPTEDLRSWEKKQAPLRFQDLSRLQSGCYHHCVDENIERNHYLDLAGIENYTSQFGPGSPSVAQKSE  
LPRTSNPTRSRSHPEAIIHPRKPKQGVDPASFFHLDTPIAKVSELQQRLRGTDGSKHFVRSPKAQGKS  
VGGVHARGARNKPLGPALPAVSPSAHLAASPALLPALPLGHKKHKKHRAKESQQGCRGLQAPLASGGPV  
LGREHLRELPAVVYESQAGQPVQRHEHHHHHHHHHHHHFYQT

FIG. 5

SEQ. ID. NO.: 8

MGKLHSPAAVCRRRESPEGDSFAVSAAWARKGIEEWIGRQRCPGVSGPRQLRAGTVGRGTRELVGDT  
REALGEEDEDDFRLVALPPEKIDSLSGDEKKMERLSEPGASKQLKFEELQCDVSMEEDSRQEWTFLL  
YDFDNGKVTREDITSLHTIYEVVDSSVNHSPSTSSKTLRVKLTVPDGSQSKRSVLFNHTDLQSTRPRAD  
TKPAEELRGWEKKQAPLRFQDLSHLEQPCYHHCVDENIERNHYLDLAGIENYTSQFGPGSPSVAQKSE  
LPRI SNPTRSRSHPEAAHI PHRRPQGVDPGSHLLDTPFAKASELQQRLRGTDGSKHFVRSPKAQGKN  
MGMGHGARGARSKPPLVPTTHTVSPSAHLATSPALLPTLPLGHKKHKKHRAKESQASCRGLQGPLAAGST  
VMGREQVRELPAVVYESQAGQAVQRHEHHHHHHHHHHHHFYQP

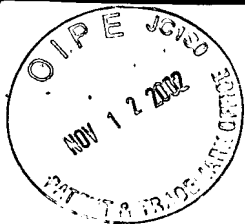
FIG. 6



PUTATIVE PROMOTER:

GAATTCATATGCACATTAAATTCCAGGGAGCCCTCCTCTAGGCTATTTGACCCTAGCTCAAGAAAGGGGGA  
TTAAGAGTCTTACAGGGAGGGATCCAAGGTCAGCATATACAGTTAGTCAGGGACCAGTCTGTCTGTGTCTC  
TCTCTCCATGGGGTTTACTATCATTGCTTTCCCTAATGGTTCCTTACTCCTGCTTCTTCCCTGCTTATTTTT  
CAGCCCACAGCGACCCCAAGAAGCTGCTCCAACCCCTGGGACTATGGAGCTCTACAGCTGTAGAGACCACC  
AGGAAGTGGACTGCAGGCCCCCTGGCCTCTCCATTAGATTCTGCAAAGAGATCCTGATGGGTGGGGCCAAT  
GGGTGAGGCATCCAGTCAGCTCTGGCTAAGGGGTGAAGGAGTCAGGTGTTACCAACGTGGTGGCAGGGGCC  
ACCTTGAAGCTGTGTTCTGTGCCATGGAAGAAGGAAGGAGGAGGAAGCTAAGCTGGAAGGGAAGGCAGG  
TGATACAGGAAAATTAATATGAGCTTTGCTATAGTGACCCTTTTCCCTTCACTCCTTGAGCTGTGGCCTT  
AAGAAGTGTGTACCAATGGGAGGCACTTGCATAGTAAGTGTTCAATTTGCTGAATACTTACAGAGGGCTATA  
AGTGGACAAATATGTCCAAAACACATGAAACACACACCATCAACACTTGCAGATGGTCTCCTTCAGGGAA  
CCTTTCACACTGGCTCTCCCTCACTGAGCTTTCCCTTCTATCACCTCCCAGTCTAGGCTCCTGGAGTC  
AGTAGTTGGAATCTCAGATGGGAAGAAACCTTAAAAGTCATCTGGTCCAGTATTTTCCAAAGCATGTTCCA  
TGAAGTTGTTTTCCAGAAATGGTTTCCCTGGTCTGGTGAGTTAAGAAACCCCTGCTTATGACGATGCTCTCC  
ATTTAGAGAATCACAAAGCTTGGCTACTCAATGAAAGCTCTGACAAGTCTGCAGGAAAAAACTTGTCTTC  
TTTTGGCTAAGCTAGGGCTGCCCCAAGTTTCTCATGGAGTCCTTTCTTGCACATAATAATAGCATCTCACA  
AACCAGTGGTCTGGGGGAACCCATTACGGGAAATGCTAATCTTCTGGACCCTTCCTTCTATTTTATAGGTGG  
AGAGGCTGTGTGGTGGTCTGGTTGGCTGCATGTAAGTAAAAACAAAGGCTTAAAAAGATAGGGGCTTCTT  
TTGCTCTTTTGTAAACAAAGTCTGGGAATAGTCAAAGACTGGTACTGTGACTAGAAAGGCTTCTGATATGG  
TTTGGCTCTGTGTTCCCAACCAAATCTCACCTTGAGTTGTAATGATCCCATATGTCAAGGGCAGGATCAG  
GTGGAGGTAATTGAATCATGAGGGCAGTTAATCCCATGCTGTTCTTGTGATAGTGAGTTCTCACAGGATCT  
GATGGTTTTATAAGGGGCTTTTCCCTTTGCTCGGCACCTCTCTCTCCTGCTGCTATGTGAAGAGGGACGT  
GTTTGCTTCTCCTTCTGTGATGATTGTAAGTTTCCCTGAGGCCCTCCCAAGCCATGTAGAAGTGTGAGTCAAT  
TAAACCTCTTTCTTTTATAAATTGCCAGTTCCGGTATGTTCTTGTAGCAGCCTGAGACCGCAATATA  
GCTTCTCTGCCCAGTGTGAAGAAGAGCAGAGAGGCAAGGGCTGGGAGGAGAACAAGGCACCTGCCAAGAGA  
TGGGGAGGCTGGGCTGGCTTTCCCTCTCCTCCAGGCTCACCTGGGAAGCCTGTGCTCTAAACTTGCTCAAA  
CATCCTGAACCCAGGAGGAGTTGGTGGTACACAAATTC AATTCAATTCAACCCACATCCAGACTGTACTC  
AAGCAGCAGTCTTTTGGCCAGTCATCTCAACCTCATCTTCTCCCTCTACTCCCAAACCATGCTCTCTC  
TGCTCCAGAGCCAGGGGCCCTTTTGTGTTTCCAAAACATCCATGGCAGTCTCCACTTCAGGGCCTTTACA  
TGTGCTGTTCCTCTGCCTTTAGTACCCAAACAGAATGGCTTGGAGACCCAGCCCTAGTTCTTGGGGAAG  
CCCAGCCTCCTCCATCTCATATCTAAGGCCTGAGGCCTCCTGGCTGCCTCTGGCTCCCATCTTTTCTCCTG  
CAGGGTATCTCCACTGTGAAGATTGCTGTTGGCCCCATTAATTACCTGTAGGAGTCATCTTTCTGATTCTT  
TAATTTTGTCTGTGCCACTAACCCAGGAAGTGGCTAGGATTTTGTGAGGGCTTGGAGTAACAGAGGAAG  
AAGAGGCACTGCCAATCGCATGTTAGAGCTCACTGTCCCAAAAGTGAATTGGCCAGTCCCCACCTTGCTG  
GCTGTGCTTCTTAGGCCCCATTATCACTCTCTCTCATGCTGTTTCCCTTTGAGATCTTTGTTTTCCCTTC  
CCTCCAAAATGCCTGATATTTCTCAGGCAGGAGTAGTCTAACTTTCCCTCCTCACCCAACTAGGCTTCC  
AGGCCCTTTAGCAATGCCAAAACCTCACAGGAACTATAAAATAAGCAACTCCAGGGATCCAGGAGGAAC  
CAGTGGAGACTTGGGAAGTGAATTTCTCCTTCATATATCCAAGATCGTATTATTGGCAGTACTCCCTCCTT  
ATTGACCACAACATGCTCCTGGCTGAGGCTGGGCAGAGAGAGTTTGTCTCCTTCCACAGCAGGTGTGATGG  
CACCTGCTATAGGCAGTGTGTTTCGGCATTGCATTACAGAGATGCAAGTAAGGCAAGAACCTGGCCTCA  
AGGAGCCCTGGCTCCAGGAGTGAACTTAGCCTCATGCATAAAATAAGTGGAGATGGGAGGGGGCAGGGAA  
ACCTTGGCTAATCAGAGCAGAGAAGAGCCCTTCAGGTTGGAAGGTCAAGGAGGGCTTCCTTTAGGAAATGG  
CATTTGAAGGGGCCAGATCAGATGGCTTAACCTTCGGGGACAAGCTTTGGAGCAGCTAACTTGGGTGATGTA  
GGATTTTTTTTTTTTTTAAATCTCCAGCTCTATGTCTGACAGATTTACCTAAACCAGCCTTGTTAAATC  
TCAAGCCCCATGAAACCCGTTTCTGTTATAATCTCTCTCTCTTATCTCTTCTTGCCTTCTTTCCCATTC  
TCCTCCCCCAAAGGATAGGAAATCTTCAAAGAAAAAGATGTGTCACTGCAAGTATACAGCCCAAGAAATGG  
GCCAGATAAAATTATTAACACACGAAAAGACAGTGAGTTATGGGGTGGGAAGCCCTCGGAGGCCGAATGG  
CCACCCAGGTAGACAGCATGCTGGTGGCCCTGGAGACCCCTTCTCAGAGACCTGGACAGACTAACATT  
TTGCCACAAGGCCCATCTCTTGGGTCTCACCCAGATCTGGGTAAAGGTATCATGATTCCAATAGCAGTG  
AAGTCCAGGCGCTGTGGCTGGGAGGACACAGGTGAAGGTGGAGGGGGGCTTTGTGTCTGGGCTGGA  
CATTTGGGATTTACTCCCGCAAGACTCAAACCTGCTAAGTCTTGTGCTTTTACCTTTTACCTCTTTT  
GAACTGTAAAAAGAAATTCCCAAGGGGAAGAGGGGATACTTTTTTCTCATGGAAGAAGAACCCAGGACCG  
GTTTAAGAAAGTAACCAACTTTCTAAGCACTGTGAGAAAGGATGCTCCAAGTTTGTGCTTTGATTTAGAGGC  
ACCCTGGTACCAGCAGGGAGGGGTGAGAAAGGCAACAGGAATTCCAGACGAATTCCATTGCCTTTTGGAG

FIG. 7-1



GGTCTGAAAGAGGGTGCCCACTCCGACTCAGATGCTCAAACCCCTGGCTCCCTCTTACACCTGACCCCCGC  
CGTTCTGCCCCACTTTTTCATGTTCTACAGCTCAGGGGTTCTTACTTCAGCATTACCCACATTTGATGCT  
GGATCATTTGTTCTGGTAGGGTGGGGGGGCTGCCTTATGCATTGTGGTATGTGTAGCAGCAACCCTGGCCT  
CTACCCACTAGATACCTCCAGGCATTACCAAGTGTCCTCCTAGAGGGCAAATTTGTTGTGTCAGGTCCTT  
ATGGGATGGAAAGAAAGAAAAATGGCCTGTTACCCCTGGTGTAACCTACTACACTGTTTACTAATTCATCA  
TTTATTGTTTCTTGCTATCTTCCCCCTAGGTGAGTGGGAGTTCGATGAGAGTGGCAGTTGTCTATTTTGT  
TCACCGATGTATCTTAGGTGACTAAAACAATGGTTGTACATGGCTGGCCCTTCATATTTGTTTCCAGATG  
GAAGACTCTCTTTCTAGTGGTGGAAACATTAGTTTGTGACTGTGTTGGGACAACCTGATGTAGTGAAAACAA  
GCCTGGGCAATGAAATCAACAGATTGGAGTTTCACTTCCCTCCTTTCTAGAACAAAGTATGAGTCTGCATCAGAG  
AGTGGTTGCGAGGGCTACACATGATGGAGGATGAGGACTGGCACATCAGAAGTACTGAATGAAGAATTGTA  
ACATAAAAATGACAACAGTAATATATTTTTGTGGTTTCAGCACTCTTCAAATGAAACCACCTGGCCAACAG  
GATTTTAGTGTACCTGCTTATAACATTAGCCTTCGTTTCCACCAAAAAGGGTGTAAAAAAGGAAGCTTGG  
AACATGAAAGTAAGACACTTGGATGAAGAGATTTATGACTCTGGGGGGCTGTGAATTCCTAATGTCTTTT  
GAGACATGTAGATCTTCCAGAGCGATGCTGCCCAATGCAGTAGCCACTAGCCAAGTGCAAATGGTCACTTG  
CAATATGGCTAGTCTTTGAGATGTGTTTTAAGTGTAATAACACACTGAATTTTAAAGACTTAGCGCAATA  
CAAAGAATGTAAATATCTCATTATATCTTGAAATTATACTATTTTGGATATATGGTGTTCCTTGGTGTC  
TTTGGGGACTGGTTCCAGGATCCTAGAGGATACCCAAATCCCAGATGTCAAGTCCGCTATATAAAATGTC  
CTGTAGTATTTGCATATAACCTACACACATCCTTCTGAATACTTTAAATCATCTCTAGATTCCTTGTAAAT  
CCTAATACAATGTAAATGTTATGTAAATAGTTGTTATACTATATTAATAAGTTTTTTATTCTTTATTTTGT  
CTGTATTATTCTTTTTGCATATTTTCAGTCCACAGATGGTTGATGCCACAGATGTGGAACCTGTGAATAAG  
GAGGGCTGACTGTATTGAGTTAAGCGAAATATATTATTAATATTTTCATCTATTTCTTTTACTTCTAAAAG  
ATGTGGCGACAAGAAAATTTAAAAATTACAAATGTGGCCACATTATATTTCTATTGGGCAGTGCTGCTCTA  
GAGAGTCGGCAAAAAGGGCAGAAATGGAGCCTCCATTATACAGATCACAAAACCTGAGCACAGGTAATTCACT  
CCAAAGGTGCGGGCTGGTCTCACTCTGAGCTGCGGGTTTTCTTTTCCCACGCCAGAGCTGCCTGGTGCCAG  
GACGAGCGTAACACGGACCCACAGTGTCCTCCAGAAAGGGGGCAGGCGTTCTGAGAGCCACAAAGGTGGGGTG  
GAATCCCTTGATGTGACCGCCACCATCCCCCTCCCCCGCGCGACCTCCCCGCAGAGACCTCCCCAGACA  
AAACAACAAACCCTTGGGTCTGGCGAACTGCAGCGGGGAGCGGAAACCAAGGAAGATCAAAGACTCAGCG  
GTTACCCCTTCCGGGCCGCGCAGTTTGGCAGCGCGCCCGGACCCGGGCGGGCACCCACGGGCCCCCGGAC  
GAGGAGATCCAGAGACTGGCTGATAACGGGGCGCTTGGACATTTGTCGCTGCCTGGAGAGGGCTGGGCT  
CACACTGGCCCCGGGTGCGCTGGGGGCTCCTCCTGGACTCCCCAAATAAGAACTAGAGGAGTGCGGTGGT  
GGGGGGCGGGTCACGGGGCGGGTAATGAACACTTTCTGCAGAAGGTAGGTGCTGGGAAGACTGGGAAAAGG  
CAGCGCTGCCGAAGCTTGCACCTGAGCAGCTAAGGTCTCCGCTCCCGACCTCAGTTTCCCCACCTGTAAAT  
TGGAGCCGCCGAGTCCCGCCCTGCCCGTTTAGAGAGAACGTGGAGCGGAGGGAAGTGACAGTACAGTTAGC  
GATGGCCGGGCTGTCTGTCCCAATACGCCTCCTGGACAAGCCGCCCGCCGGGTCGCCAGCCCTGGAGCT  
CGGCCCCCGGCCAGACCGCGGCAGGAGCGCGGACTGTGTCCCGCCCCCTCCCGTCAGCGCCCCGCCCTC  
GTCCCCGCCCATGCCCGCCTCCGGCCCCGCCCCCGCCGCAACCAGCCTTGCTTTGATGCGCCGCACCGG  
CCAATGGGCGCGCGGGGAGGCGCGGGCCGCGGCGCGGGCTGGGGGCTCGGCGCTCCCGGGCGTC

EXON1: 5' UTR

AGTCGGGCGCGGGCAGGGCGGCAGGAGCGCGTCCCGGCGCCGCTCGGGCTCCGCTCGGCTCGGGGGCTG  
CTTCGGGAGGAGAAGAGCCAAGGGAGGCGCCAGGCCCGCGGGCCGGGCG

EXON2: 5' UTR

CATGGCTTAGGGACGCTCCCGGCCGCGCATCCCCAGC

EXON2: CODING

ATGGGGAACTTCACTCCAAGCCG

EXON3: CODING

GCCGCGGTGTGAAGCGCAGGGAGAGCCCCGGAAG

EXON4: CODING

FIG. 7-2





GTGACAGCTTCGCCGTGAGCGCTGCCTGGGCTCGGAAGGGCATCGAGGAGTGGATCGGGAGACAGCGCTGC  
CCGGGCGGTGTCTCGGGACCCCGACAGCTGCGGTTGGCGGGCACCATAGGCCGAAGCACCCGG

EXON5: CODING

GAGCTCGTGGGCGACGTGTTGAGAGACACGCTCAGCGAGGAAGAGGAGGACGACTTTCGGCTGGAAG

EXON6: CODING

TGGCCCTGCCTCCTGAGAAGACTGACGGGCTGGGCAGCGGAGATGAGAAGAAGATGGAGAGAGTGAGCGAA  
CCCTGCCAGGCTCCAAGAAGCAGCTGAAGTTTGAA

EXON7: CODING

GAGCTCCAGTGCGACGTGTCCATGGAGGAGGACAGCCGGCAGGAGTGGACCTTCACCCTGTATGACTTTGA  
CAACAACGGCAAGGTCACCCGAGAG

EXON8: CODING

GACATCACCAGCTTGCTGCACACCATCTATGAGGTGGTGGACTCCTCTGTCAACCACTCCCCAACATCCAG  
CAAGATGCTGCGGGTAAAGCTCACCGTGGCCCCCGATGGCAGCCAGAGCAAGAGGAGCGTCCTTGTCAATC  
AGGCTG

EXON9: CODING

ACCTGCAGAGCGCAAGGCCCCGAGCAGAGACCAAGCCCACTGAGGACCTGCGGAGCTGGGAGAAGAAGCAG  
CGAGCCCCGCTCAG

EXON10: CODING

GTTCCAGGGTGACAGCCGCTGGAGCAGTCTGGCTGCTACCACCATTCGCTAGATGAGAACATCGAGAGGA  
GAAACCACTACTTAGATCTCGCCGGGATAGAAAACCTACACGTCCCAATTTGGGCCTG

EXON11: CODING

GCTCCCCCTCCGTGGCCCAGAAGTCAGAACTGCCCCCCCCGCACCTCCAATCCCACTCGATCTCGCTCCCAT  
GAGCCGGAAGCCATCCACATCCCACACCGAAAGCCCCAAGGCGTGGACCCGGCCTCCTTCCACTTCCTTGA  
CACCCCAATCGCCAAGGTCTCAGAGCTCCAGCAACGGCTCCGGGGCACCCAGGACGGGAGCAAGCACTTTG  
TGAGGTCCCCCAAGGCCCAGGGCAAGAGTGTGGGTGTGGGCCACGTGGCCAGAGGGGCAAGAAACAAGCCC  
CCTCTGGGACCCGCCATCCCTGCGGTGTCCCCCTCCGCCCACCTGGCTGCCAGCCCGGCCCTCCTCCCCTC  
CCTAGCCCCCTCGGGCACAAGAAGCACAAGCACCGAGCCAAGGAGAGCCAGCAGGGCTGCCGGGGCCTGC  
AGGCACCACTGGCCTCAGGTGGCCCTGTCTTGGGGCGGGAGCACCTGCGGGAGCTGCCCGCCTTGGTGGTG  
TATGAGAGCCAGGCCGGGCAGCCGGTCCAGAGACATGAGCACCAACCACCACCATGAACATCACCACCATTA  
CCACCACTTCTACCAGACATAG

EXON11: 3'UTR

AGCCCCCTCCCCAGGGCCCCACCCTGCCATATGAAGGACCCACCCCGACACCACAAGGCATTATTATTCT  
ATTAATTATTGTTATTATGATGATTATTGTTATTAATAATTATTGTTACTCCACTAATATTTAGCTAGCCT  
ACATGTAGAAGATCTATGGAAACACAGAATAAATTTTATTTATATGTTAAAAAAAAAAAAAAAAAAAAAA  
AA

FIG. 7-3

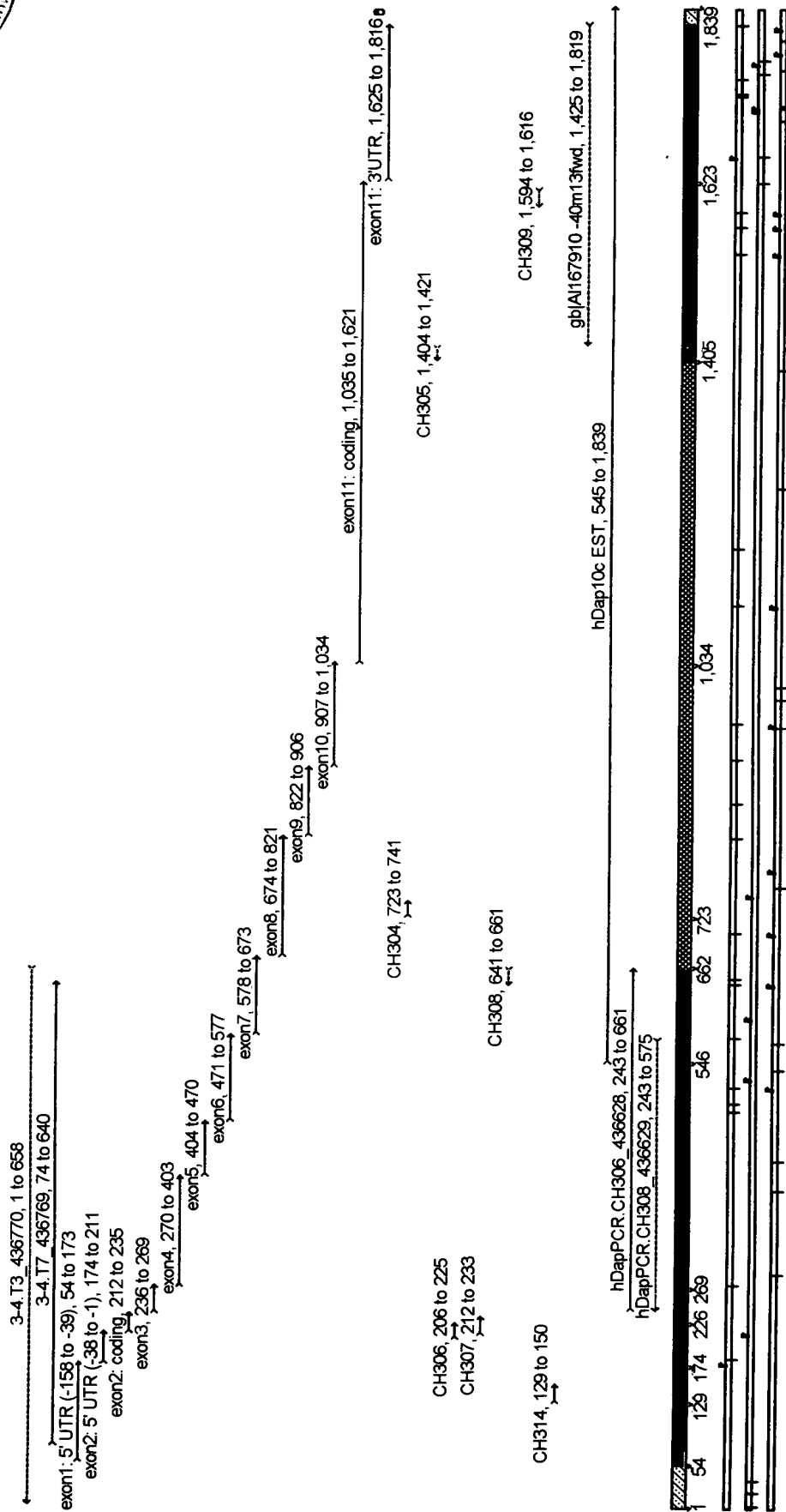


Diagram Key	
	Hole in contig
	Single fragment
	Multiple fragments same direction
	Both strands
	Both strands plus
	Start codon frame 1
	Stop codon frame 2
	Bumps on fragments
	show motifs, hollow rectangles
	show features

FIG. 8



Wnt/ $\beta$ -catenin Pathway Induces Genes Which Promote Cell Proliferation

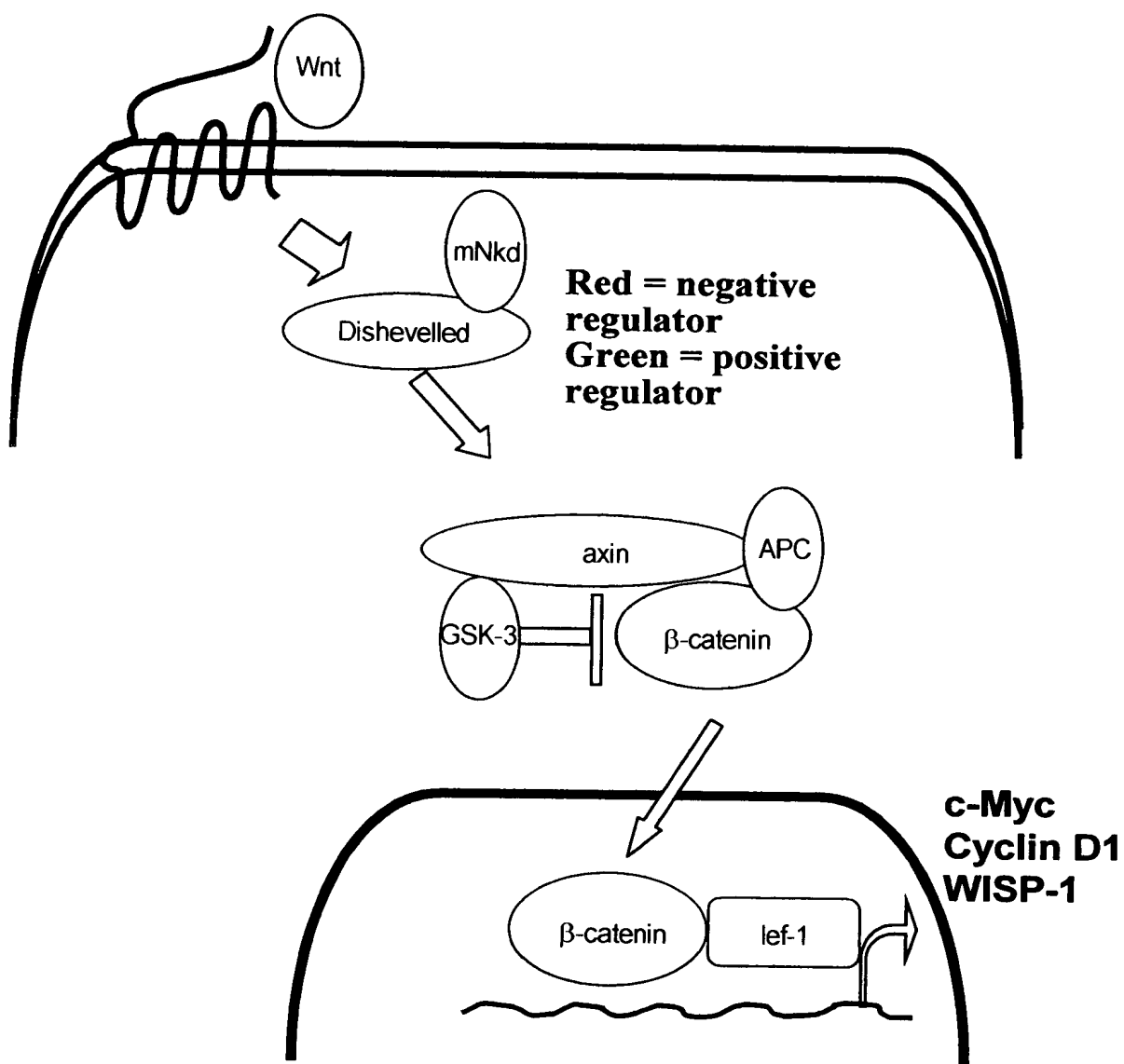
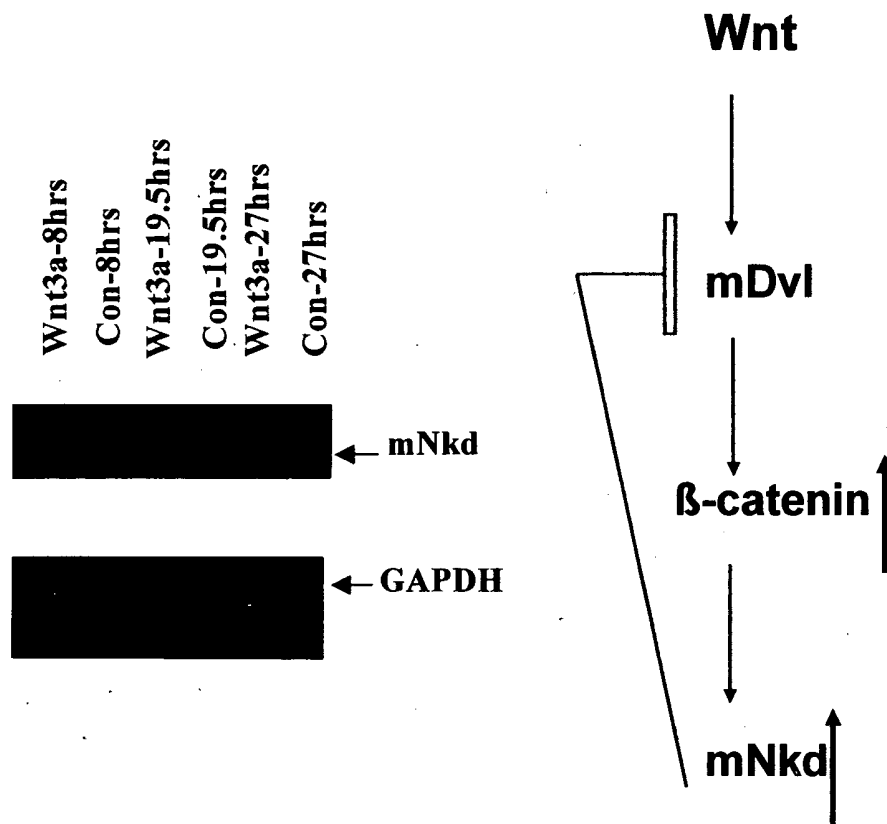


FIG. 9

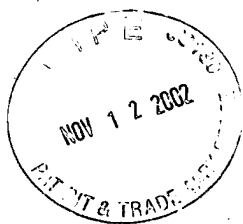


# mNkd mRNA Is Induced by Wnt Ligand

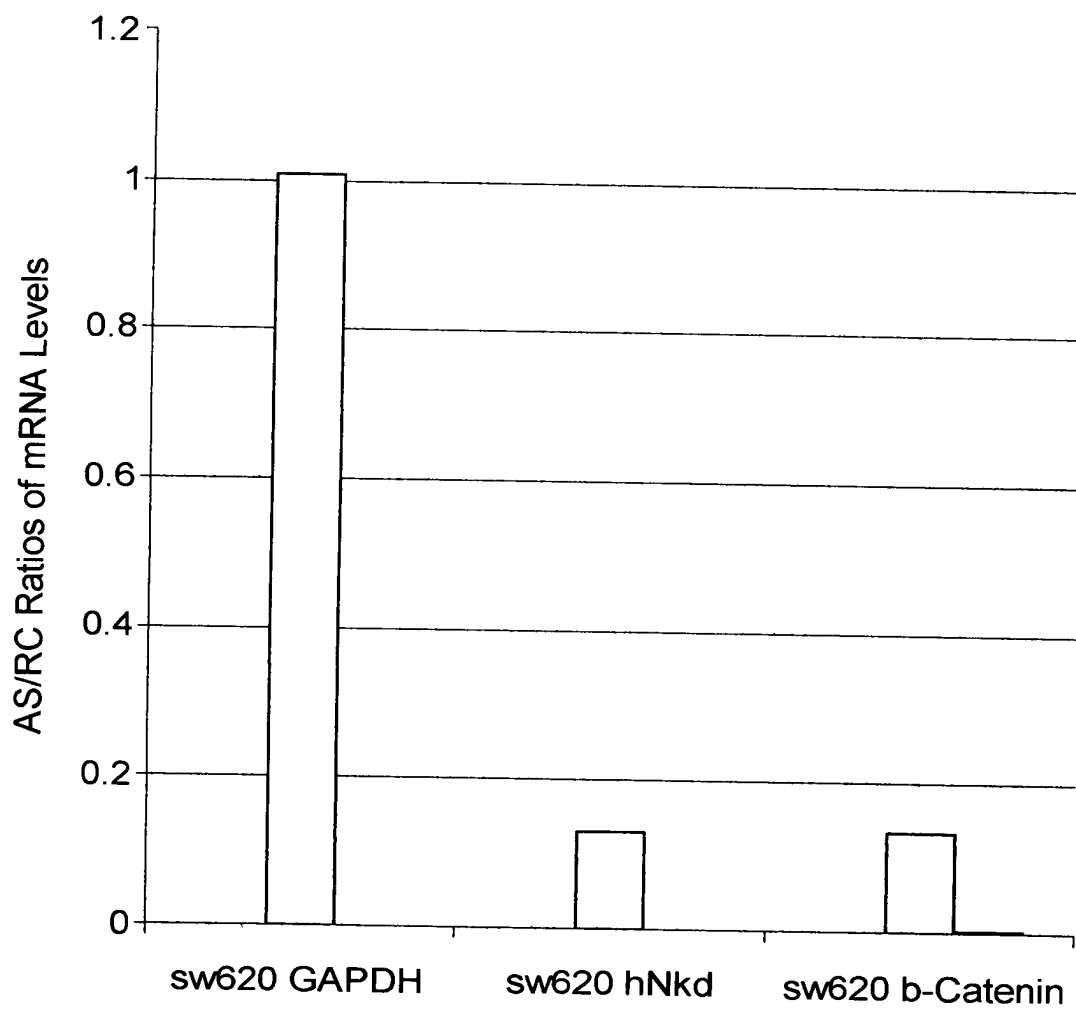


mNkd may be a part of the negative feed back loop of the Wnt/β-catenin pathway

**FIG. 10**



Ratios of hNkd and  $\beta$ -Catenin mRNA  
Levels in SW620 Cells Treated with  
 $\beta$ -Catenin AS/RC Oligos

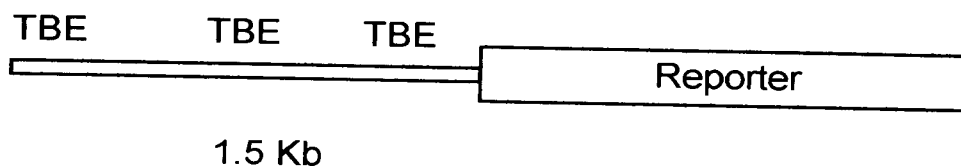


**FIG. 11**



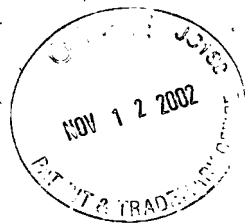
Using hNkd Promoter---Reporter Expression  
Construct to Screen for Small Molecule  
Inhibitors that Down Regulate the Expression  
of the Reporter

Our Strategy:



TBE: TCF binding Element (CTTTGA/TA/T)

**FIG. 12**



Ratios of hNkd mRNA Levels in Tumor/Normal Colon Tissues

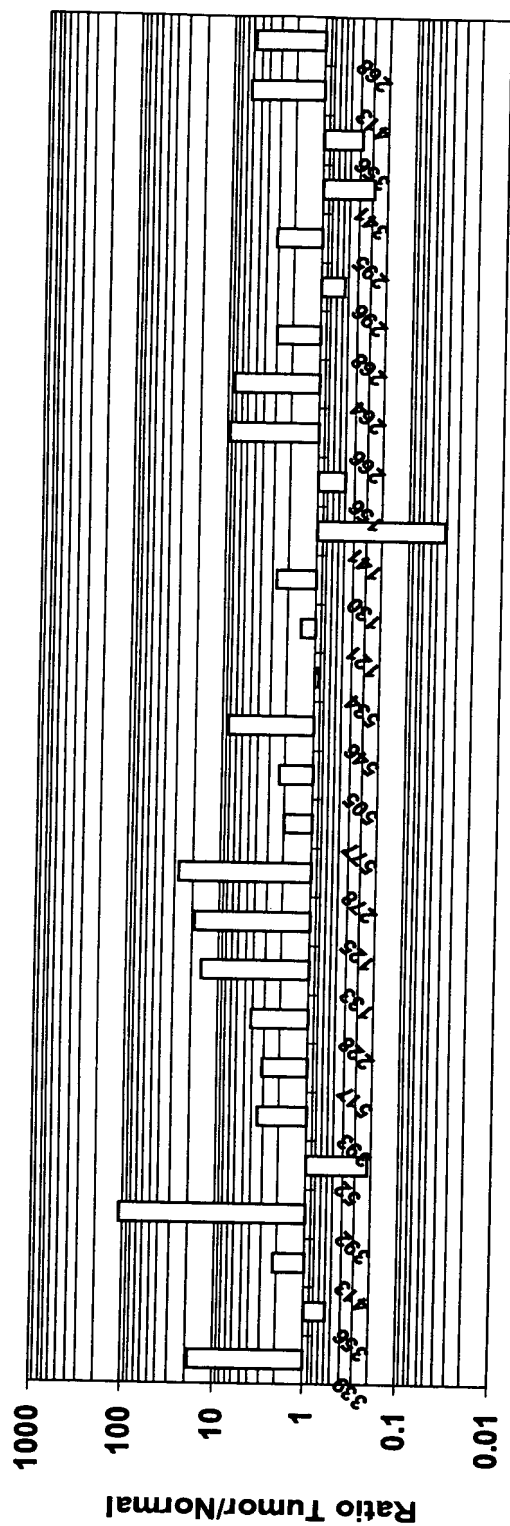


FIG. 13



hNkd inhibits Wnt-1 activated luciferase reporter

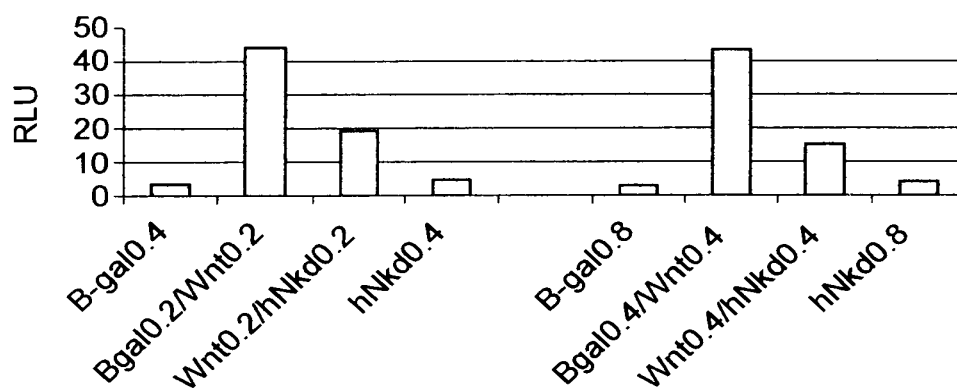


FIG. 14





Expression of hNkd in Normal Tissues

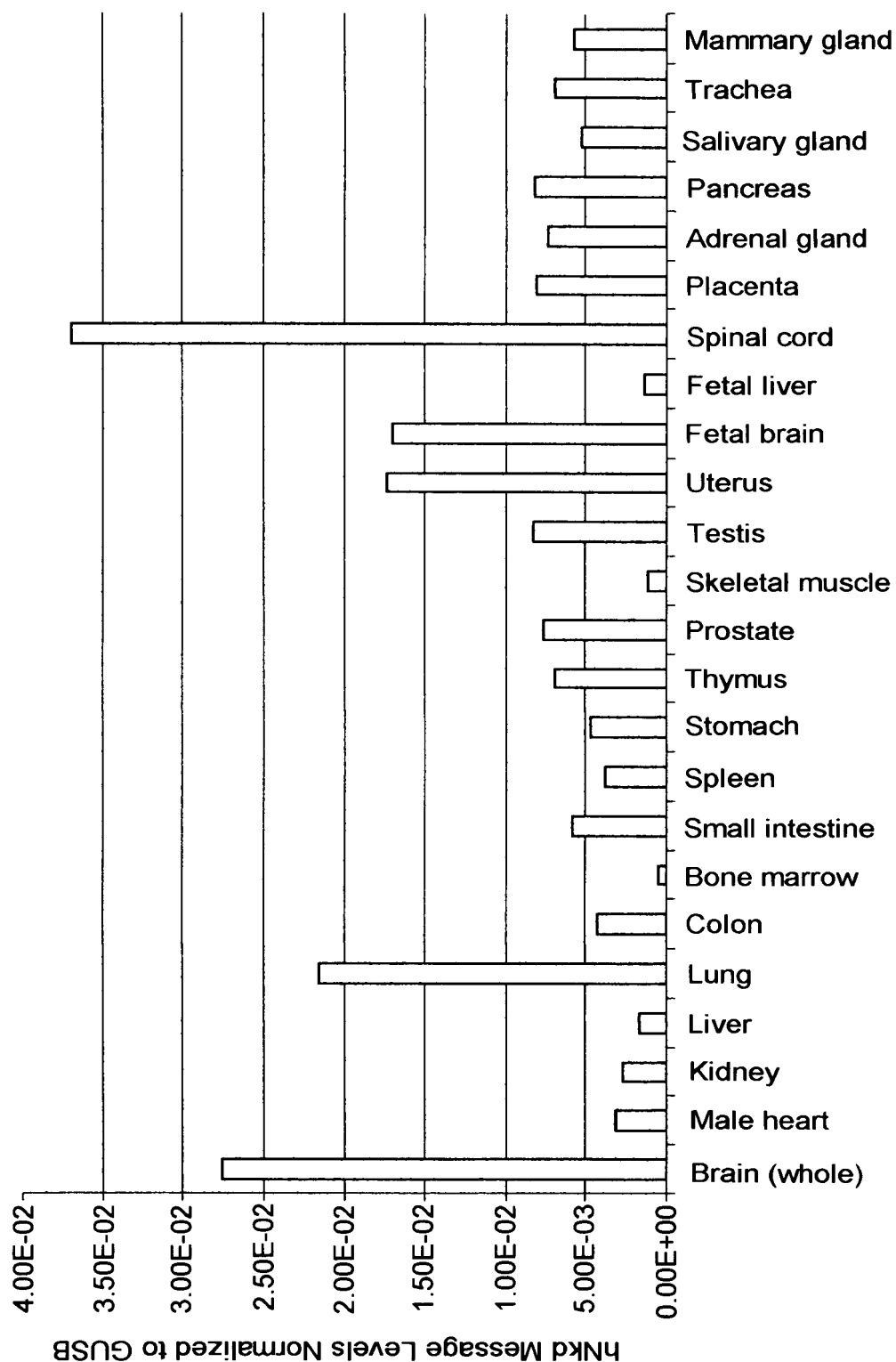


FIG. 15

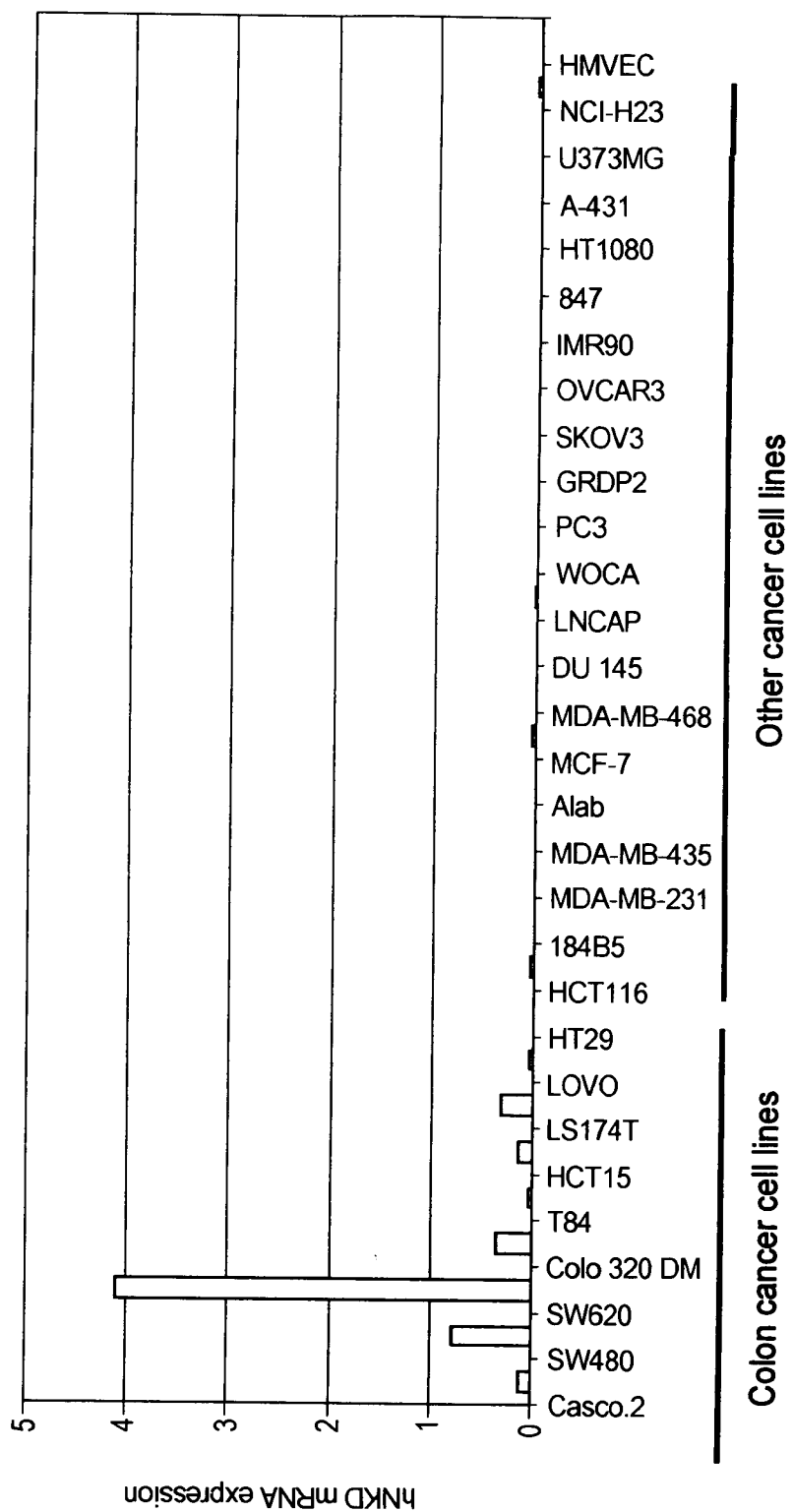


FIG. 16